

Jan Delaval

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Access DB# 65130  
Jan Delaval

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Biotechnology & Chemical Library  
CM1 1E07 - 703-308-4498  
jan.delaval@uspto.gov

SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: My-Chan Tran Examiner #: 78933 Date: 4/23/02  
Art Unit: 1641 Phone Number 30 5-6999 Serial Number: 09/833,030  
Mail Box and Bldg/Room Location: CM1, 8A16 Results Format Preferred (circle): PAPER DISK E-MAIL  
7E12

If more than one search is submitted, please prioritize searches in order of need.

\*\*\*\*\*

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: Method for Obtaining a Surface Activation of a Solid Support for building biochip

Inventors (please provide full names): Laszlo Hevesi, Laurent Jeannart, microarrays  
and Jose Remacle

Earliest Priority Filing Date: 9/1/2000

\*For Sequence Searches Only\* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

Mrs. Delaval: I would like to request the following searches:

I. Structure search of the following compounds:

1) allyltrichlorosilane 2) 5-hexenyltrichlorosilane  
 $\{H_2C=CH-CH_2-SiCl_3\}$  -C-C=C-C-C-SiCl<sub>3</sub>

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USPTO

3) 7-octenyltrichlorosilane: -C-C=C-C-C-C-C-SiCl<sub>3</sub>

a) Search for "I." (structure above) and oxidation

(I'm looking for the oxidation of a double bond to form an aldehyde)

b) Search for oxidation of an olefin (alkene, vinyl) to form an aldehyde (prefer using permanganate or periodate). This is use to couple a bromolecule through the aldehyde.

c) Search for the following fragment:  $\{O-Si-(CH_2)_{1-10}-CH\}$

As an aid for the search I have attached claims 1-9 and fig. 1, which is the oxidation procedure of interest.

Thank you

STAFF USE ONLY

Searcher: Jan

Type of Search

Vendors and cost where applicable

Searcher Phone #: 4498

NA Sequence (#)

STN

✓

Searcher Location:

AA Sequence (#)

Dialog

Date Searcher Picked Up: 4/30/02

Structure (#)

Questel/Orbit

Date Completed: 4/30/02

Bibliographic

Dr. Link

Searcher Prep & Review Time: 2

Litigation

Lexis/Nexis

Clerical Prep Time: 2

Fulltext

Sequence Systems

Online Time: + 50

Patent Family

WWW/Internet

Other

Other (specify)

=> fil reg  
FILE 'REGISTRY' ENTERED AT 13:53:40 ON 30 APR 2002  
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.  
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.  
COPYRIGHT (C) 2002 American Chemical Society (ACS)

STRUCTURE FILE UPDATES: 29 APR 2002 HIGHEST RN 409058-68-0  
DICTIONARY FILE UPDATES: 29 APR 2002 HIGHEST RN 409058-68-0

TSCA INFORMATION NOW CURRENT THROUGH July 7, 2001

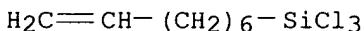
Please note that search-term pricing does apply when  
conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Calculated physical property data is now available. See HELP PROPERTIES  
for more information. See STNote 27, Searching Properties in the CAS  
Registry File, for complete details:  
<http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf>

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L115 ANSWER 1 OF 3 REGISTRY COPYRIGHT 2002 ACS  
RN 52217-52-4 REGISTRY  
CN Silane, trichloro-7-octenyl- (9CI) (CA INDEX NAME)  
OTHER NAMES:  
CN 7-Octenyltrichlorosilane  
CN Trichloro-7-oct-1-enylsilane  
CN Trichloro-7-octenylsilane  
FS 3D CONCORD  
MF C8 H15 Cl3 Si  
CI COM  
LC STN Files: BEILSTEIN\*, CA, CAPLUS, CHEMCATS, CHEMLIST, CSCHEM, IFICDB,  
IFIPAT, IFIUDB, TOXCENTER, USPATFULL  
(\*File contains numerically searchable property data)  
Other Sources: EINECS\*\*, NDSL\*\*, TSCA\*\*  
(\*\*Enter CHEMLIST File for up-to-date regulatory information)



\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

18 REFERENCES IN FILE CA (1967 TO DATE)  
3 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA  
18 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 136:235824  
REFERENCE 2: 135:69141  
REFERENCE 3: 133:199155  
REFERENCE 4: 131:23961  
REFERENCE 5: 130:183002  
REFERENCE 6: 129:22700  
REFERENCE 7: 128:108533

Jan Delaval  
Reference Librarian  
Biotechnology & Chemical Library  
CM1 1E07 - 703-308-4498  
jan.delaval@uspto.gov

REFERENCE 8: 128:68589

REFERENCE 9: 126:278041

REFERENCE 10: 121:30489

L115 ANSWER 2 OF 3 REGISTRY COPYRIGHT 2002 ACS

RN 18817-29-3 REGISTRY

CN Silane, trichloro-5-hexenyl- (8CI, 9CI) (CA INDEX NAME)

OTHER NAMES:

CN Trichloro-5-hexenylsilane

FS 3D CONCORD

MF C6 H11 Cl3 Si

LC STN Files: BEILSTEIN\*, CA, CAPLUS, CASREACT, CHEMCATS, CSCHEM, GMELIN\*,  
IFICDB, IFIPAT, IFIUDB, TOXCENTER, USPATFULL

(\*File contains numerically searchable property data)



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23 REFERENCES IN FILE CA (1967 TO DATE)

1 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA

23 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 136:235824

REFERENCE 2: 133:313533

REFERENCE 3: 133:238364

REFERENCE 4: 129:22700

REFERENCE 5: 128:217994

REFERENCE 6: 128:168254

REFERENCE 7: 128:108533

REFERENCE 8: 128:68589

REFERENCE 9: 127:195986

REFERENCE 10: 123:33377

L115 ANSWER 3 OF 3 REGISTRY COPYRIGHT 2002 ACS

RN 107-37-9 REGISTRY

CN Silane, trichloro-2-propenyl- (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN Silane, allyltrichloro- (6CI, 7CI, 8CI)

OTHER NAMES:

CN Allyltrichlorosilane

CN Propen-3-yltrichlorosilane

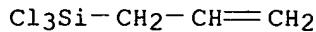
FS 3D CONCORD

MF C3 H5 Cl3 Si

CI COM

LC STN Files: BEILSTEIN\*, CA, CAOLD, CAPLUS, CASREACT, CEN, CHEMCATS,  
CHEMINFORMRX, CHEMLIST, CHEMSAFE, CSCHEM, DETHERM\*, GMELIN\*, HODOC\*,  
HSDB\*, IFICDB, IFIPAT, IFIUDB, MSDS-OHS, RTECS\*, SPECINFO, SYNTHLINE,

TOXCENTER, USPATFULL  
(\*File contains numerically searchable property data)  
Other Sources: EINECS\*\*, NDSL\*\*, TSCA\*\*  
(\*\*Enter CHEMLIST File for up-to-date regulatory information)



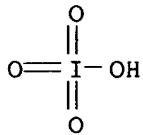
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2 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA  
180 REFERENCES IN FILE CAPLUS (1967 TO DATE)  
57 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE 1: 136:235824  
REFERENCE 2: 136:183933  
REFERENCE 3: 136:37742  
REFERENCE 4: 135:357979  
REFERENCE 5: 135:357689  
REFERENCE 6: 135:344525  
REFERENCE 7: 135:318114  
REFERENCE 8: 135:211149  
REFERENCE 9: 135:195958  
REFERENCE 10: 135:107375

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L116 ANSWER 1 OF 2 REGISTRY COPYRIGHT 2002 ACS  
RN 7790-28-5 REGISTRY  
CN Periodic acid (HIO<sub>4</sub>), sodium salt (8CI, 9CI) (CA INDEX NAME)  
OTHER CA INDEX NAMES:  
CN Sodium periodate (NaIO<sub>4</sub>) (6CI)  
OTHER NAMES:  
CN Monosodium metaperiodate  
CN Periodic acid sodium salt  
CN Sodium metaperiodate  
CN Sodium metaperiodate (NaIO<sub>4</sub>)  
CN Sodium periodate  
MF H I O<sub>4</sub> . Na  
CI COM  
LC STN Files: AGRICOLA, BIOPHARMA, BIOSIS, BIOTECHNO, CA, CANCERLIT,  
CAOLD, CAPLUS, CASREACT, CBNB, CEN, CHEMCATS, CHEMINFORMRX, CHEMLIST,  
CIN, CSCHEM, CSNB, DDFU, DETHERM\*, DRUGU, EMBASE, GMELIN\*, IFICDB,  
IFIPAT, IFIUDB, IPA, MEDLINE, MRCK\*, MSDS-OHS, NIOSHTIC, PIRA, PROMT,  
RTECS\*, TOXCENTER, USPATFULL  
(\*File contains numerically searchable property data)  
Other Sources: DSL\*\*, EINECS\*\*, TSCA\*\*  
(\*\*Enter CHEMLIST File for up-to-date regulatory information)  
CRN (13444-71-8)

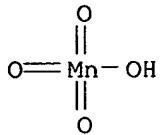


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1331 REFERENCES IN FILE CA (1967 TO DATE)  
 13 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA  
 1334 REFERENCES IN FILE CAPLUS (1967 TO DATE)  
 44 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE 1: 136:268221  
 REFERENCE 2: 136:262992  
 REFERENCE 3: 136:262767  
 REFERENCE 4: 136:244596  
 REFERENCE 5: 136:235824  
 REFERENCE 6: 136:231241  
 REFERENCE 7: 136:216378  
 REFERENCE 8: 136:202009  
 REFERENCE 9: 136:163490  
 REFERENCE 10: 136:134954

L116 ANSWER 2 OF 2 REGISTRY COPYRIGHT 2002 ACS  
 RN 7722-64-7 REGISTRY  
 CN Permanganic acid (HMnO4), potassium salt (8CI, 9CI) (CA INDEX NAME)  
 OTHER NAMES:  
 CN C.I. 77755  
 CN Cairox  
 CN Chameleon mineral  
 CN Condyl's crystals  
 CN Permanganic acid potassium salt  
 CN Potassium permanganate  
 CN Pure Light E 2  
 MF H Mn O4 . K  
 CI COM  
 LC STN Files: ADISNEWS, AGRICOLA, ANABSTR, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CABA, CANCERLIT, CAPLUS, CASREACT, CBNB, CHEMCATS, CHEMINFORMRX, CHEMLIST, CIN, CSCHEM, CSNB, DDFU, DETHERM\*, DIOGENES, DRUGU, EMBASE, ENCOMPLIT, ENCOMPLIT2, ENCOMPPAT, ENCOMPPAT2, HSDB\*, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, MRCK\*, MSDS-OHS, NIOSHTIC, PDLCOM\*, PIRA, PROMT, RTECS\*, TOXCENTER, TULSA, ULIDAT, USAN, USPAT2, USPATFULL, VETU, VTB  
 (\*File contains numerically searchable property data)  
 Other Sources: DSL\*\*, EINECS\*\*, TSCA\*\*  
 (\*\*Enter CHEMLIST File for up-to-date regulatory information)  
 CRN (13465-41-3)



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7139 REFERENCES IN FILE CA (1967 TO DATE)  
33 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA  
7149 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 136:285771  
REFERENCE 2: 136:284565  
REFERENCE 3: 136:283577  
REFERENCE 4: 136:280217  
REFERENCE 5: 136:279004  
REFERENCE 6: 136:271712  
REFERENCE 7: 136:269637  
REFERENCE 8: 136:268284  
REFERENCE 9: 136:267768  
REFERENCE 10: 136:267570

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L68 STR  
O—Si  
1 2

NODE ATTRIBUTES:  
DEFAULT MLEVEL IS ATOM  
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:  
RING(S) ARE ISOLATED OR EMBEDDED  
NUMBER OF NODES IS 2

STEREO ATTRIBUTES: NONE  
L74 STR  
X—Si  
1 2

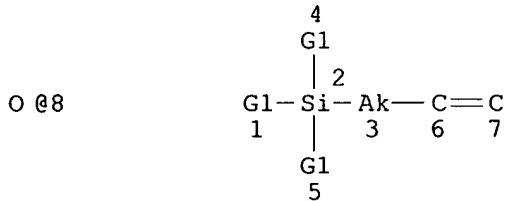
NODE ATTRIBUTES:  
DEFAULT MLEVEL IS ATOM  
DEFAULT ECLEVEL IS LIMITED

## GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED  
NUMBER OF NODES IS 2

## STEREO ATTRIBUTES: NONE

L80 378147 SEA FILE=REGISTRY SSS FUL L68  
L81 30254 SEA FILE=REGISTRY SSS FUL L74  
L82 403549 SEA FILE=REGISTRY ABB=ON PLU=ON (L80 OR L81)  
L85 STR



VAR G1=8/X

## NODE ATTRIBUTES:

CONNECT IS M1 RC AT 8  
DEFAULT MLEVEL IS ATOM  
DEFAULT ECLEVEL IS LIMITED

## GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED  
NUMBER OF NODES IS 8

## STEREO ATTRIBUTES: NONE

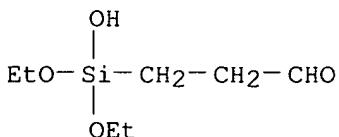
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293 ANSWERS

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L117 ANSWER 1 OF 10 REGISTRY COPYRIGHT 2002 ACS  
RN 147766-60-7 REGISTRY  
CN Propanal, 3-(diethoxyhydroxysilyl)- (9CI) (CA INDEX NAME)  
FS 3D CONCORD  
MF C7 H16 O4 Si  
SR CA  
LC STN Files: BEILSTEIN\*, CA, CAPLUS  
(\*File contains numerically searchable property data)

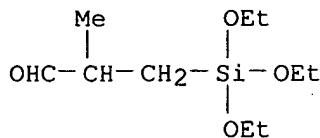


\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

1 REFERENCES IN FILE CA (1967 TO DATE)  
1 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA  
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 118:254997

L117 ANSWER 2 OF 10 REGISTRY COPYRIGHT 2002 ACS  
 RN 88276-93-1 REGISTRY  
 CN Propanal, 2-methyl-3-(triethoxysilyl)- (9CI) (CA INDEX NAME)  
 FS 3D CONCORD  
 MF C10 H22 O4 Si  
 LC STN Files: CA, CAPLUS, USPATFULL

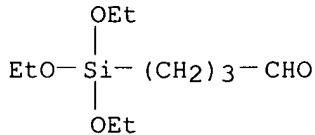


\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

1 REFERENCES IN FILE CA (1967 TO DATE)  
 1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 100:34694

L117 ANSWER 3 OF 10 REGISTRY COPYRIGHT 2002 ACS  
 RN 88276-92-0 REGISTRY  
 CN Butanal, 4-(triethoxysilyl)- (9CI) (CA INDEX NAME)  
 FS 3D CONCORD  
 MF C10 H22 O4 Si  
 LC STN Files: CA, CAPLUS, USPATFULL

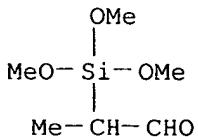


\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

1 REFERENCES IN FILE CA (1967 TO DATE)  
 1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 100:34694

L117 ANSWER 4 OF 10 REGISTRY COPYRIGHT 2002 ACS  
 RN 88276-91-9 REGISTRY  
 CN Propanal, 2-(trimethoxysilyl)- (9CI) (CA INDEX NAME)  
 FS 3D CONCORD  
 MF C6 H14 O4 Si  
 LC STN Files: BEILSTEIN\*, CA, CAPLUS, CASREACT, USPATFULL  
 (\*File contains numerically searchable property data)

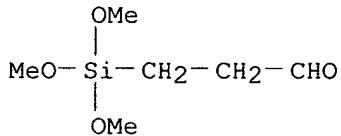


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 5 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 135:253724  
 REFERENCE 2: 131:116290  
 REFERENCE 3: 122:214132  
 REFERENCE 4: 113:231460  
 REFERENCE 5: 100:34694

L117 ANSWER 5 OF 10 REGISTRY COPYRIGHT 2002 ACS  
 RN 88276-90-8 REGISTRY  
 CN Propanal, 3-(trimethoxysilyl)- (9CI) (CA INDEX NAME)  
 FS 3D CONCORD  
 MF C6 H14 O4 Si  
 LC STN Files: BEILSTEIN\*, CA, CAPLUS, CASREACT, USPATFULL  
 (\*File contains numerically searchable property data)

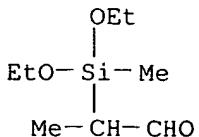


\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

5 REFERENCES IN FILE CA (1967 TO DATE)  
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REFERENCE 1: 135:253724  
 REFERENCE 2: 131:116290  
 REFERENCE 3: 122:214132  
 REFERENCE 4: 113:231460  
 REFERENCE 5: 100:34694

L117 ANSWER 6 OF 10 REGISTRY COPYRIGHT 2002 ACS  
 RN 88276-88-4 REGISTRY  
 CN Propanal, 2-(diethoxymethylsilyl)- (9CI) (CA INDEX NAME)  
 FS 3D CONCORD  
 MF C8 H18 O3 Si  
 LC STN Files: CA, CAPLUS, USPATFULL

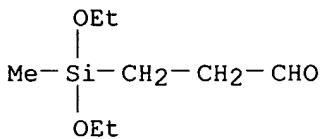


\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

1 REFERENCES IN FILE CA (1967 TO DATE)  
 1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 100:34694

L117 ANSWER 7 OF 10 REGISTRY COPYRIGHT 2002 ACS  
 RN 88276-87-3 REGISTRY  
 CN Propanal, 3-(diethoxymethylsilyl)- (9CI) (CA INDEX NAME)  
 FS 3D CONCORD  
 MF C8 H18 O3 Si  
 LC STN Files: CA, CAPLUS, USPATFULL

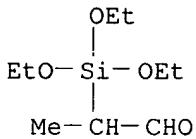


\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

1 REFERENCES IN FILE CA (1967 TO DATE)  
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REFERENCE 1: 100:34694

L117 ANSWER 8 OF 10 REGISTRY COPYRIGHT 2002 ACS  
 RN 88276-84-0 REGISTRY  
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 LC STN Files: CA, CAPLUS, USPATFULL

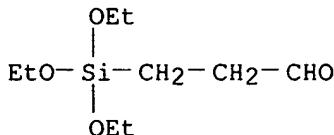


\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

1 REFERENCES IN FILE CA (1967 TO DATE)  
 1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 100:34694

L117 ANSWER 9 OF 10 REGISTRY COPYRIGHT 2002 ACS  
 RN 88276-83-9 REGISTRY  
 CN Propanal, 3-(triethoxysilyl)- (9CI) (CA INDEX NAME)  
 FS 3D CONCORD  
 MF C9 H20 O4 Si  
 LC STN Files: BEILSTEIN\*, CA, CAPLUS, USPATFULL  
 (\*File contains numerically searchable property data)

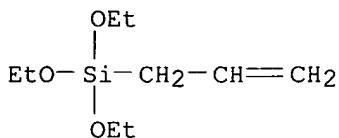


\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

1 REFERENCES IN FILE CA (1967 TO DATE)  
 1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 100:34694

L117 ANSWER 10 OF 10 REGISTRY COPYRIGHT 2002 ACS  
 RN 2550-04-1 REGISTRY  
 CN Silane, triethoxy-2-propenyl- (9CI) (CA INDEX NAME)  
 OTHER CA INDEX NAMES:  
 CN Silane, allyltriethoxy- (6CI, 7CI, 8CI)  
 OTHER NAMES:  
 CN 2-Propenyltriethoxysilane  
 CN 3-(Triethoxysilyl)propene  
 CN A 0564  
 CN A 0564 (coupling agent)  
 CN Allyltriethoxysilane  
 CN Triethoxyallylsilane  
 FS 3D CONCORD  
 MF C9 H20 O3 Si  
 CI COM  
 LC STN Files: BEILSTEIN\*, CA, CAOLD, CAPLUS, CASREACT, CHEMCATS, CHEMLIST,  
     CSCHEM, DETHERM\*, GMELIN\*, HODOC\*, IFICDB, IFIPAT, IFIUDB, MSDS-OHS,  
     SPECINFO, TOXCENTER, USPATFULL  
     (\*File contains numerically searchable property data)  
 Other Sources: EINECS\*\*, NDSL\*\*, TSCA\*\*  
     (\*\*Enter CHEMLIST File for up-to-date regulatory information)



\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

167 REFERENCES IN FILE CA (1967 TO DATE)  
 21 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA  
 167 REFERENCES IN FILE CAPLUS (1967 TO DATE)  
 24 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE 1: 136:134829

REFERENCE 2: 136:107196

REFERENCE 3: 136:78989

REFERENCE 4: 136:7809

REFERENCE 5: 135:371835

REFERENCE 6: 135:295965  
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 REFERENCE 8: 135:137541  
 REFERENCE 9: 135:129562  
 REFERENCE 10: 135:33563

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FILE 'HCAPLUS' ENTERED AT 12:44:40 ON 30 APR 2002  
 E HEVESI L/AU

L1 92 S E3,E4  
 E JEANMART L/AU  
 L2 3 S E3,E4  
 E REMACLE J/AU  
 L3 218 S E3-E7,E13  
 L4 140 S ALLYLTRICLOROSILANE OR ALLYL() (TRICLOROSILANE OR TRICLORO  
 L5 3 S 5 () (HEXENYLTRICLOROSILANE OR HEXENYL() (TRICLOROSILANE OR T  
 L6 5 S HEXENYLTRICLOROSILANE OR HEXENYL() (TRICLOROSILANE OR TRICL  
 L7 5 S 7() (OCTENYLTRICLOROSILANE OR OCTENYL() (TRICLOROSILANE OR TR  
 L8 16 S OCTENYLTRICLOROSILANE OR OCTENYL() (TRICLOROSILANE OR TRICL  
 L9 1 S L1-L3 AND L4-L8

FILE 'REGISTRY' ENTERED AT 12:51:59 ON 30 APR 2002  
 L10 3 S 107-37-9 OR 18817-29-3 OR 52217-52-4  
 L11 25 S (107-37-9 OR 18817-29-3 OR 52217-52-4) /CRN  
 L12 1 S L11 AND 1/NC  
 L13 24 S L11 NOT L12

FILE 'HCAPLUS' ENTERED AT 12:55:25 ON 30 APR 2002  
 L14 229 S L10 OR L11  
 L15 3 S TRICLORO()7() ((OCT 1 ENYLSILANE) OR OCTENYLSILANE)  
 L16 4 S TRICLORO 5 HEXENYLSILANE  
 L17 0 S PROPEN 3 YLTRICLOROSILANE  
 L18 0 S PROPEN 3 YL TRICLOROSILANE  
 L19 0 S PROPEN 3 YL TRICLORO SILANE  
 L20 0 S TRICLORO 2() (PROPENYLSILANE OR PROPENYL SILANE)  
 L21 259 S L4-L8,L14,L15,L16  
 L22 1 S L1-L3 AND L21  
 L23 1 S L9,L22  
 E OXIDATION/CW  
 L24 198841 S E3  
 E OXIDATION/CT  
 E E3+ALL  
 L25 177492 S E4,E3+NT  
 L26 99443 S E41+NT OR E42+NT OR E43+NT OR E44+NT OR E45+NT OR E46+NT  
 L27 6 S L21 AND L24-L26  
 L28 5 S E48+NT AND L21  
 L29 11 S L27,L28  
 L30 13 S (OXIDAT? OR OXIDIZ? OR OXIDIS?) AND L21  
 L31 20 S L29,L30  
 L32 4 S L31 AND ?ALDEHYD?  
 L33 2 S L31 AND ?PERMANGANAT?  
 L34 1 S L31 AND ?PERIODAT?

FILE 'REGISTRY' ENTERED AT 13:02:07 ON 30 APR 2002

L35 1 S 7722-64-7  
 L36 1 S 7790-28-5  
 L37 1 S 13465-41-3  
 L38 90 S 13465-41-3/CRN  
 L39 1 S 13444-71-8  
 L40 101 S 13444-71-8/CRN

FILE 'HCAPLUS' ENTERED AT 13:02:43 ON 30 APR 2002  
 L41 2 S L35-L40 AND L21  
     E PERMANGANATE/CT  
     E E6+ALL  
 L42 8539 S E11+NT  
     E PERIODATE/CT  
     E E5+ALL  
 L43 97 S E1  
 L44 30 S E2, E3  
     E E2+ALL  
     E E4+ALL  
     E E3+ALL  
 L45 96 S E2  
 L46 2 S L42-L45 AND L21  
 L47 4 S L32-L34, L41, L46  
 L48 3 S L47 NOT L23  
 L49 16 S L31-L34, L41, L46 NOT L47  
     SEL DN AN 1 10 11 14  
 L50 4 S E1-E10  
 L51 2 S L21 AND KMNO4  
 L52 2 S L21 AND NAO4  
 L53 5 S L23, L50-L52  
 L54 31 S L21 AND ?ALDEHYDE?  
     E ALDEHYDE/CT  
     E E15+ALL  
 L55 27 S L21 AND E3+NT  
 L56 1 S L21 AND E177+NT  
 L57 27 S L55, L56  
 L58 9 S L54 NOT L57  
     SEL DN AN 5  
 L59 1 S L58 AND E1-E3  
 L60 2 S L59, L23  
 L61 6 S L53, L60  
 L62 6 S L61 AND L1-L9, L14-L34, L41-L61

FILE 'REGISTRY' ENTERED AT 13:19:08 ON 30 APR 2002  
 L63 STR  
 L64 0 S L63  
 L65 STR L63  
 L66 0 S L65

FILE 'HCAPLUS' ENTERED AT 13:20:51 ON 30 APR 2002  
     SEL RN L23

FILE 'REGISTRY' ENTERED AT 13:20:54 ON 30 APR 2002  
 L67 10 S E4-E13  
 L68 STR L65  
 L69 50 S L68  
 L70 STR L68  
 L71 50 S L70  
 L72 STR L70  
 L73 0 S L72  
 L74 STR L70  
 L75 50 S L74  
 L76 594574 S SI/ELS AND (O OR CL OR BR OR F OR I)/ELS  
 L77 50 S L70 SAM SUB=L76

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L78      50 S L68 OR L74
L79      50 S L68 OR L74 SAM SUB=L76
L80      378147 S L68 FUL
L81      30254 S L74 FUL
L82      403549 S L80,L81
L83          0 S L72 SAM SUB=L82
L84          55 S L72 FUL SUB=L82
L85          STR
L86          2 S L85 CSS SAM SUB=L82
L87      293 S L85 CSS FUL SUB=L82
          SAV L84 TEMP TRAN833/A
          SAV L87 TEMP TRAN833A/A

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FILE 'HCAPLUS' ENTERED AT 13:32:38 ON 30 APR 2002

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L88      29 S L84
L89      796 S L87
L90          0 S L21 AND L88
L91          1 S L88 AND L89
L92          0 S L88 AND (L35-L40,L42-L45 OR KMNO4 OR NAIO4 OR PERMANGANAT? OR
L93          24 S L84/P
L94          1 S L91 AND L93
L95          0 S L88 AND L24-L26
L96          2 S L88 AND OXID?
          SEL DN AN 2
L97          1 S L96 AND E14-E16
L98          8 S L62,L91,L94,L97
L99          27 S L88 NOT L98
          SEL DN AN 1
L100         1 S E17-E19
L101         9 S L98,L100 AND L1-L9,L14-L34,L41-L62,L88-L100
          E DNA MICROARRAY TECHNOLOGY/CT
          E E3+ALL
L102         3269 S E4+NT
L103         3811 S E6-E14/BI
          E COMBINATORIAL/CT
          E E5+ALL
L104         1628 S E3+NT
L105         3057 S E3/BI
          E E4+ALL
L106         5896 S E1+NT
L107         2259 S E6+NT
L108         4282 S E5+NT
          E HIGH THROUGHPUT/CT
          E E5+ALL
L109         340 S E1
L110         2207 S E1/BI
L111         0 S L88,L90 AND L102-L110
L112         1 S L21 AND L102-L110
L113         9 S L101,L112
          SEL HIT RN

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FILE 'REGISTRY' ENTERED AT 13:51:30 ON 30 APR 2002

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L114         15 S E1-E15
L115         3 S L114 AND L10
L116         2 S L114 AND L35-L40
L117         10 S L114 AND L82 NOT L115

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FILE 'REGISTRY' ENTERED AT 13:53:40 ON 30 APR 2002

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=> fil hcaplus
FILE 'HCAPLUS' ENTERED AT 13:54:53 ON 30 APR 2002
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FILE COVERS 1907 - 30 Apr 2002 VOL 136 ISS 18  
FILE LAST UPDATED: 29 Apr 2002 (20020429/ED)

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=> d 1113 all hitstr tot

L113 ANSWER 1 OF 9 HCPLUS COPYRIGHT 2002 ACS  
AN 2002:299811 HCPLUS  
TI A scanning probe study of some short chain self-assembled alkylsilane films  
AU Li, Jingxin; Horton, J. Hugh  
CS Department of Chemistry, Queen's University, Kingston, ON, K7L 3N6, Can.  
SO Journal of Materials Chemistry (2002), 12(5), 1268-1273  
CODEN: JMACEP; ISSN: 0959-9428  
PB Royal Society of Chemistry  
DT Journal  
LA English  
CC 66 (Surface Chemistry and Colloids)  
AB Trichloroalkylsilanes readily form self-assembled monolayers (SAMs) on mica surfaces. The present work uses scanning probe methods (at. force microscopy (AFM), chem. force microscopy (CFM) and nanoindentation) to study aspects of the assembly process and the properties of some short chain forms of these self-assembled monolayers. The deposition of propyltrichlorosilane (CH<sub>3</sub>CH<sub>2</sub>SiCl<sub>3</sub>, PTS) and allyltrichlorosilane (H<sub>2</sub>C:CHCH<sub>2</sub>SiCl<sub>3</sub>, ATS) at varying temps. (-78 .degree.C to +25 .degree.C) on mica substrates has been examd. The ATS films were subsequently modified by oxidn. to form a -COOH terminated species. These films were characterized by chem. force microscopy using functionalized tips at varying pH values. In addn., nanoindentation was utilized to study the Young's modulus and hardness of the films. We find that at low deposition temps., smooth overlayers of these short chain films are formed, without the formation of polymerised aggregates that are seen at higher temps. The surface ordering also appears to be higher under these conditions. The surface pKa of the oxidized ATS is larger than that of the longer chain analog previously characterised by chem. force microscopy. Nanoindentation can readily distinguish between ordered and polymerised aggregates on the surface.

L113 ANSWER 2 OF 9 HCPLUS COPYRIGHT 2002 ACS  
AN 2002:169108 HCPLUS  
DN 136:235824  
TI Surface treatment activation of glass substrates by oxidation

with aldehyde groups and fixation of coupling agents for  
bio-chips micro-arrays

IN Hevesi, Laszlo; Jeanmart, Laurent; Remacle,  
Jose  
PA A.S.B.L. Facultes Universitaires Notre-Dame de la Paix, Belg.  
SO Eur. Pat. Appl., 15 pp.  
CODEN: EPXXDW

DT Patent

LA English

IC ICM C03C017-34

CC 57-1 (Ceramics)

Section cross-reference(s): 3, 9

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1184349	A1	20020306	EP 2000-870184	20000901
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	WO 2002018288	A1	20020307	WO 2001-BE59	20010406
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				

PRAI EP 2000-870184 A 20000901

AB Micro-arrays for bio-chips are prep'd. by submitting a solid support to  
oxidn. of chem. groups present on the surface to allow the  
formation of aldehyde groups on the surface covalently coupling  
upon the aldehyde group capture mols. designed for the  
detection, the quantification and/or the recovery of complementary target  
biol. or chem. mols. The covalent binding produces an array with a d. of  
at least 4, 10, 16, 20 or more discrete regions per cm<sup>2</sup> of solid substrate  
surface, each of the discrete surface regions being bound with one species  
of capture mols.

ST surface oxidn aldehyde group coupling agent glass  
substrate microarray

IT Cytomegalovirus  
(DNA sequence; surface treatment activation of glass substrates by  
oxidn. with aldehyde groups and fixation of coupling  
agents for biochips microarrays)

IT Antibodies

Antigens

Haptens

RL: PEP (Physical, engineering or chemical process); PYP (Physical  
process); PROC (Process)  
(capture mol.; surface treatment activation of glass substrates by  
oxidn. with aldehyde groups and fixation of coupling  
agents for biochips microarrays)

IT DNA sequences

(coupling agents; surface treatment activation of glass substrates by  
oxidn. with aldehyde groups and fixation of coupling  
agents for biochips microarrays)

IT Liver

(hepatocyte, mRNA source; surface treatment activation of glass  
substrates by oxidn. with aldehyde groups and  
fixation of coupling agents for biochips microarrays)

IT Silanes

RL: PEP (Physical, engineering or chemical process); PYP (Physical  
process); PROC (Process)

(olefinic, surface-modifier; surface treatment activation of glass substrates by **oxidn.** with **aldehyde** groups and fixation of coupling agents for biochips microarrays)

IT Nucleotides, processes  
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process)  
(sequences, capture mol.; surface treatment activation of glass substrates by **oxidn.** with **aldehyde** groups and fixation of coupling agents for biochips microarrays)

IT mRNA  
RL: ANT (Analyte); ANST (Analytical study)  
(sequences; surface treatment activation of glass substrates by **oxidn.** with **aldehyde** groups and fixation of coupling agents for biochips microarrays)

IT **Permanganates**  
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process)  
(soln.; surface treatment activation of glass substrates by **oxidn.** with **aldehyde** groups and fixation of coupling agents for biochips microarrays)

IT Combinatorial chemistry  
DNA microarray technology  
Formyl group  
Glass substrates  
Surface treatment  
(surface treatment activation of glass substrates by **oxidn.** with **aldehyde** groups and fixation of coupling agents for biochips microarrays)

IT Oxidation  
(surface; surface treatment activation of glass substrates by **oxidn.** with **aldehyde** groups and fixation of coupling agents for biochips microarrays)

IT 107-37-9, Allyltrichlorosilane 18817-29-3  
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process)  
(coupling agents; surface treatment activation of glass substrates by **oxidn.** with **aldehyde** groups and fixation of coupling agents for biochips microarrays)

IT 9013-20-1, Streptavidin  
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process)  
(cy5-conjugate, coupling agents; surface treatment activation of glass substrates by **oxidn.** with **aldehyde** groups and fixation of coupling agents for biochips microarrays)

IT 2056-98-6, DCTP 86303-26-6, Biotin-16-dUTP  
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process)  
(labeling; surface treatment activation of glass substrates by **oxidn.** with **aldehyde** groups and fixation of coupling agents for biochips microarrays)

IT 108-88-3, Toluene, uses  
RL: NUU (Other use, unclassified); USES (Uses)  
(solvent; surface treatment activation of glass substrates by **oxidn.** with **aldehyde** groups and fixation of coupling agents for biochips microarrays)

IT 16940-66-2, Sodium borohydride  
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process)  
(surface treatment activation of glass substrates by **oxidn.** with **aldehyde** groups and fixation of coupling agents for biochips microarrays)

IT 7722-64-7, Potassium permanganate 7790-28-5,  
Sodium periodate (NaIO4) 52217-52-4,

**7-Octenyltrichlorosilane**

RL: PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process)  
 (surface treatment; surface treatment activation of glass substrates by oxidn. with aldehyde groups and fixation of coupling agents for biochips microarrays)

RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

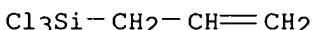
(1) Befani, O; BIOTECHNOLOGY AND APPLIED BIOCHEMISTRY 1998, V28(2), P99 HCPLUS  
 (2) Corning Inc; EP 0947246 A 1999 HCPLUS  
 (3) Medtronic Inc; EP 0803257 A 1997 HCPLUS  
 (4) Zammatteo, N; ANALYTICAL BIOCHEMISTRY 2000, V280(1), P143 HCPLUS

IT 107-37-9, **Allyltrichlorosilane** 18817-29-3

RL: PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process)  
 (coupling agents; surface treatment activation of glass substrates by oxidn. with aldehyde groups and fixation of coupling agents for biochips microarrays)

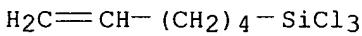
RN 107-37-9 HCPLUS

CN Silane, trichloro-2-propenyl- (9CI) (CA INDEX NAME)



RN 18817-29-3 HCPLUS

CN Silane, trichloro-5-hexenyl- (8CI, 9CI) (CA INDEX NAME)

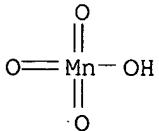


IT 7722-64-7, Potassium permanganate 7790-28-5,  
 Sodium periodate (NaIO4) 52217-52-4,  
**7-Octenyltrichlorosilane**

RL: PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process)  
 (surface treatment; surface treatment activation of glass substrates by oxidn. with aldehyde groups and fixation of coupling agents for biochips microarrays)

RN 7722-64-7 HCPLUS

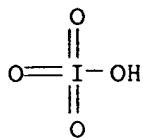
CN Permanganic acid (HMnO4), potassium salt (8CI, 9CI) (CA INDEX NAME)



● K

RN 7790-28-5 HCPLUS

CN Periodic acid (HIO4), sodium salt (8CI, 9CI) (CA INDEX NAME)



● Na

RN 52217-52-4 HCAPLUS  
 CN Silane, trichloro-7-octenyl- (9CI) (CA INDEX NAME)

$\text{H}_2\text{C}=\text{CH}-\text{(CH}_2\text{)}_6-\text{SiCl}_3$

L113 ANSWER 3 OF 9 HCAPLUS COPYRIGHT 2002 ACS

AN 2001:522294 HCAPLUS

DN 135:253724

TI Enzyme stabilization by covalent binding in nanoporous sol-gel glass for nonaqueous biocatalysis

AU Wang, Ping; Dai, Sheng; Waezsada, S. D.; Tsao, Alice Y.; Davison, Brian H.  
 CS Department of Chemical Engineering, University of Akron, Akron, OH, 44325,  
 USA

SO Biotechnology and Bioengineering (2001), 74(3), 249-255  
 CODEN: BIBIAU; ISSN: 0006-3592

PB John Wiley & Sons, Inc.

DT Journal

LA English

CC 7-7 (Enzymes)

AB A unique nanoporous sol-gel glass possessing a highly ordered porous structure (with a pore size of 153 .ANG. in diam.) was examd. for use as a support material for enzyme immobilization. A model enzyme, .alpha.-chymotrypsin, was efficiently bound onto the glass via a bifunctional ligand, trimethoxysilylpropanal, with an active enzyme loading of 0.54%. The glass-bound chymotrypsin exhibited greatly enhanced stability both in aq. soln. and org. solvents. The half-life of the glass-bound .alpha.-chymotrypsin was > 1000-fold higher than that of the native enzyme, as measured either in aq. buffer or anhyd. methanol. The enhanced stability in methanol, which excludes the possibility of enzyme autolysis, particularly reflected that the covalent binding provides effective protection against enzyme inactivation caused by structural denaturation. In addn., the activity of the immobilized .alpha.-chymotrypsin was also much higher than that of the native enzyme in various org. solvents. From these results, it appears that the glass-enzyme complex developed in the present work can be used as a high-performance biocatalyst for various chem. processing applications, particularly in org. media.

ST chymotrypsin immobilization stabilization solvent

IT Solvents

(enzyme stabilization by covalent binding in nanoporous sol-gel glass for nonaq. biocatalysis)

IT Glass, biological studies

RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)

(enzyme stabilization by covalent binding in nanoporous sol-gel glass for nonaq. biocatalysis)

IT Immobilization, biochemical

(enzyme; enzyme stabilization by covalent binding in nanoporous sol-gel

IT glass for nonaq. biocatalysis)  
 9004-07-3, .alpha.-Chymotrypsin  
 RL: BAC (Biological activity or effector, except adverse); BPR (Biological process); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study); PROC (Process)  
 (enzyme stabilization by covalent binding in nanoporous sol-gel glass for nonaq. biocatalysis)

IT 88276-90-8 88276-91-9  
 RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)  
 (enzyme stabilization by covalent binding in nanoporous sol-gel glass for nonaq. biocatalysis)

IT 67-56-1, Methanol, miscellaneous 75-05-8, Acetonitrile, miscellaneous  
 110-54-3, Hexane, miscellaneous 540-84-1, Isooctane  
 RL: MSC (Miscellaneous)  
 (enzyme stabilization by covalent binding in nanoporous sol-gel glass for nonaq. biocatalysis)

RE.CNT 32 THERE ARE 32 CITED REFERENCES AVAILABLE FOR THIS RECORD

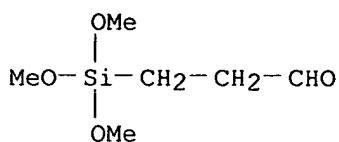
RE

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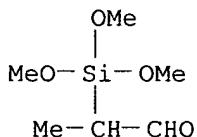
IT 88276-90-8 88276-91-9  
 RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)  
 (enzyme stabilization by covalent binding in nanoporous sol-gel glass for nonaq. biocatalysis)

RN 88276-90-8 HCPLUS

CN Propanal, 3-(trimethoxysilyl)- (9CI) (CA INDEX NAME)



RN 88276-91-9 HCAPLUS  
 CN Propanal, 2-(trimethoxysilyl)- (9CI) (CA INDEX NAME)



L113 ANSWER 4 OF 9 HCAPLUS COPYRIGHT 2002 ACS  
 AN 2000:481355 HCAPLUS  
 DN 133:199155  
 TI Chemical Modification of Self-Assembled Monolayers by Exposure to Soft X-rays in Air  
 AU Kim, Tae K.; Yang, Xiao M.; Peters, Richard D.; Sohn, B. H.; Nealey, Paul F.  
 CS Department of Chemical Engineering and Center for Nanotechnology, University of Wisconsin, Madison, WI, 53706, USA  
 SO Journal of Physical Chemistry B (2000), 104(31), 7403-7410  
 CODEN: JPCBFK; ISSN: 1089-5647  
 PB American Chemical Society  
 DT Journal  
 LA English  
 CC 66-3 (Surface Chemistry and Colloids)  
 Section cross-reference(s): 74  
 AB Methyl-, vinyl-, and trifluoroacetoxy-terminated self-assembled monolayers (SAMs) of alkylsiloxanes on SiO<sub>x</sub>/Si substrates were exposed to soft X-rays (0-4000 mJ/cm<sup>2</sup>) at air pressures from 2 times 10<sup>-2</sup> to 2 torr. The exposed and unexposed monolayers were characterized by using advancing-contact-angle measurements of water, ellipsometry, and XPS. No significant differences in the thicknesses of the monolayers were obsd. under any exposure conditions. Advancing-contact angles of water ( $\theta_a$ ) on all of the monolayers did not change with increasing dose up to 2000 mJ/cm<sup>2</sup> for exposures performed at 2 times 10<sup>-2</sup> torr. A 15% loss of fluorine was obsd. from the CF<sub>3</sub>COO-terminated SAMs at this pressure at a dose of 4000 mJ/cm<sup>2</sup>. The  $\theta_a$  decreased monotonically with dose for all monolayers exposed at 0.5, 1, and 2 torr of air pressure. The rate of decrease of  $\theta_a$  increased with increasing air pressure. A simple kinetic model based on competing oxidn. and crosslinking reactions of reactive surface species fit the data well. The model adequately described the asymptotic value of the contact angle at high doses for the three exposure pressures and was insightful for the anal. of the role of oxygen in surface-modification reactions. Loss of fluorine from the CF<sub>3</sub>COO-terminated SAMs followed the same trends as the contact-angle data. XPS data showed that hydroxyl (C-OH) and aldehyde (CH:O) groups were incorporated onto the surface of the SAMs upon irradn. at 0.5, 1, and 2 torr of air pressure, irresp. of the initial terminal groups of the SAMs. The hydroxyl groups were shown to be reactive for the formation of bilayer structures. These results are relevant for the optimization of chem. contrast and sensitivity in imaging layers based on SAMs for nanolithog. techniques using ionizing radiation.  
 ST self assembled monolayer alkylsiloxane reactivity x ray lithog

IT Contact angle  
 Crosslinking  
 Radiolysis  
 Self-assembled monolayers  
 Surface reaction  
 X-ray  
 X-ray lithography  
 (chem. modification of self-assembled monolayers by exposure to soft x-rays in air)  
 IT Oxidation  
 (surface; chem. modification of self-assembled monolayers by exposure to soft x-rays in air)  
 IT 112-04-9D, Octadecyltrichlorosilane, reaction product with silica substrate 407-25-0D, Trifluoroacetic anhydride, reaction product with hydroborated reaction product of octenyltrichlorosilane and silica substrate 14044-65-6D, reaction product with reaction product of octenyltrichlorosilane and silica substrate 52217-52-4D, 7-Octenyltrichlorosilane, reaction product with silica substrate and subsequent hydroboration and trifluoracetylation product 79769-48-5D, 11-Bromoundecyltrichlorosilane, reaction product with silica substrate  
 RL: PEP (Physical, engineering or chemical process); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)  
 (chem. modification of self-assembled monolayers by exposure to soft x-rays in air)  
 IT 7631-86-9, Silica, processes  
 RL: PEP (Physical, engineering or chemical process); PROC (Process)  
 (coatings; chem. modification of self-assembled monolayers by exposure to soft x-rays in air)  
 IT 7440-21-3, Silicon, processes  
 RL: PEP (Physical, engineering or chemical process); PROC (Process)  
 (substrates; chem. modification of self-assembled monolayers by exposure to soft x-rays in air)

RE.CNT 25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

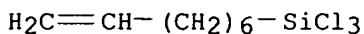
- (1) Bain, C; Angew Chem Int Ed Engl 1989, V28, P506
- (2) Bain, C; J Am Chem Soc 1989, V111, P321 HCPLUS
- (3) Clark, G; Applied X-rays, 4th ed 1955, P161
- (4) Dressick, W; J Vac Sci Technol, A 1999, V17, P1432 HCPLUS
- (5) Dulcey, C; Science 1991, V252, P551 HCPLUS
- (6) Fenter, P; Langmuir 1991, V7, P2013 HCPLUS
- (7) Fenter, P; Phys Rev Lett 1993, V70, P2447 HCPLUS
- (8) Frydman, E; Langmuir 1997, V13 HCPLUS
- (9) Geyer, W; Appl Phys Lett 1999, V75, P2401 HCPLUS
- (10) Graham, R; J Phys Chem 1993, V97, P9456 HCPLUS
- (11) Heid, S; Langmuir 1996, V12, P2118 HCPLUS
- (12) Hild, R; Langmuir 1998, V14, P342 HCPLUS
- (13) Israelachvili, J; Langmuir 1989, V5, P288 HCPLUS
- (14) Ito, T; Langmuir 1997, V13, P4323 HCPLUS
- (15) Kumar, A; Langmuir 1994, V10, P1498 HCPLUS
- (16) Laibinis, P; Science 1991, V254, P981 HCPLUS
- (17) Moon, J; Langmuir 1998, V14, P5673 HCPLUS
- (18) Muller, H; J Phys Chem, B 1998, V102, P7949
- (19) Olsen, C; J Chem Phys 1998, V108, P3750 HCPLUS
- (20) Seshadri, K; J Phys Chem 1996, V100, P15900 HCPLUS
- (21) Suh, D; J Vac Sci Technol, B 1993, V11, P2850 HCPLUS
- (22) Tidswell, I; J Chem Phys 1991, V95, P2854 HCPLUS
- (23) Wasserman, S; J Am Chem Soc 1989, V111, P5852 HCPLUS
- (24) Wasserman, S; Langmuir 1989, V5, P1074 HCPLUS
- (25) Zharnikov, M; Phys Chem Chem Phys 1999, V1, P3163 HCPLUS

IT 52217-52-4D, 7-Octenyltrichlorosilane,  
 reaction product with silica substrate and subsequent hydroboration and trifluoracetylation product

RL: PEP (Physical, engineering or chemical process); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)  
 (chem. modification of self-assembled monolayers by exposure to soft x-rays in air)

RN 52217-52-4 HCPLUS

CN Silane, trichloro-7-octenyl- (9CI) (CA INDEX NAME)



L113 ANSWER 5 OF 9 HCPLUS COPYRIGHT 2002 ACS

AN 1994:158175 HCPLUS

DN 120:158175

TI Biological recognition layers on solid phases and their preparation  
 IN Barner, Richard; Huber, Walter; Huebscher, Josef; Hurst, Juerg; Schlatter, Daniel

PA Hoffmann-La Roche, F., und Co. A.-G., Switz.

SO Eur. Pat. Appl., 15 pp.

CODEN: EPXXDW

DT Patent

LA German

IC ICM G01N033-543

ICS G01N033-547; G01N033-531

CC 9-10 (Biochemical Methods)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 578148	A2	19940112	EP 1993-110595	19930702
	EP 578148	A3	19940914		
	EP 578148	B1	20000419		
	R: BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, NL, PT				
	CA 2098960	AA	19940111	CA 1993-2098960	19930622
	ES 2146596	T3	20000816	ES 1993-110595	19930702
	JP 06174722	A2	19940624	JP 1993-170419	19930709
	US 5986066	A	19991116	US 1997-878105	19970618
PRAI	CH 1992-2178	A	19920710		
	US 1993-85716	B1	19930630		
	US 1995-492257	B1	19950622		

AB A layer of analyte-recognizing mols. is covalently immobilized on a solid phase in such a way that the analyte-recognizing regions of these mols. are oriented away from the surface of the solid phase and are not altered by the covalent binding, and the regions of these mols. which do not recognize the analyte are bound to special binding sites on the solid phase (or on an org. layer of carrier mols. coating the solid phase). The analyte-recognizing mols. are addnl. photochem. crosslinked to one another and to the orienting carrier mols. with the special binding sites. Thus, a sensor surface for immobilization of an antibody to hepatitis B surface antigen was prep'd. as follows. The sensor surface was silanized with octenyltrichlorosilane and treated with KMnO4 and NaIO4 to oxidize the terminal double bonds to carboxy groups. The carboxy groups were activated with ClCO2Et and esterified with N-hydroxysuccinimide for immobilization of protein A and bovine serum albumin. The surface was then treated with 6-(p-azidobenzenesulfonylamino)caproic acid N-hydroxysuccinimide ester (prepn. given), followed by the antibody. Exposure to an Hg vapor lamp for 30 s resulted in crosslinking of protein A, albumin, and the Fc region of the antibody without altering the antigen-binding sites of the antibody.

ST antibody photochem immobilization immunoassay

IT Hydroxyl group

(heterobifunctional linking agent contg., for antibody or receptor immobilization, ligand-recognizing site orientation away from solid

phase in relation to)

IT Linking agents  
(heterobifunctional, for antibody or receptor immobilization, ligand-recognizing site orientation away from solid phase in relation to)

IT Adsorption  
Immobilization, biochemical  
(of antibodies and receptors, ligand-recognizing site orientation away from solid phase in)

IT Crosslinking  
(of immobilized antibodies and receptors, ligand-recognizing site orientation away from solid phase in relation to)

IT Functional groups  
(phenylazido, heterobifunctional linking agent contg., for antibody or receptor immobilization, ligand-recognizing site orientation away from solid phase in relation to)

IT Albumins, reactions  
Antibodies  
RL: RCT (Reactant)  
(photochem. immobilization of, on immunosensor)

IT Proteins, specific or class  
RL: PROC (Process)  
(A, photochem. immobilization of, on immunosensor)

IT Functional groups  
(ammonio, heterobifunctional linking agent contg., for antibody or receptor immobilization, ligand-recognizing site orientation away from solid phase in relation to)

IT Virus, animal  
(hepatitis B, surface antigen of, antibody to, photochem. immobilization of)

IT Antigens  
RL: ANST (Analytical study)  
(hepatitis B surface, antibody to, photochem. immobilization of)

IT Biosensors  
(immunol., antibody photochem. immobilization on)

IT Carboxyl group  
(ionized, heterobifunctional linking agent contg., for antibody or receptor immobilization, ligand-recognizing site orientation away from solid phase in relation to)

IT Crosslinking  
(photochem., of immobilized antibodies and receptors, ligand-recognizing site orientation away from solid phase in relation to)

IT Functional groups  
(sulfonyl, heterobifunctional linking agent contg., for antibody or receptor immobilization, ligand-recognizing site orientation away from solid phase in relation to)

IT Amino group  
(tertiary, heterobifunctional linking agent contg., for antibody or receptor immobilization, ligand-recognizing site orientation away from solid phase in relation to)

IT 3600-76-8  
RL: RCT (Reactant)  
(amidation by, of aminocaproic acid)

IT 85287-36-1  
RL: RCT (Reactant)  
(amidation by, of aminoethyldithiopyridine)

IT 6427-66-3, p-Azidobenzoic acid  
RL: RCT (Reactant)  
(amidation by, of aminomethylpyridine)

IT 153311-96-7  
RL: RCT (Reactant)  
(amidation by, of benzyl aminocaproate)

IT 108-30-5, Succinic anhydride, biological studies  
 RL: RCT (Reactant)  
 (amidation by, of cystamine deriv.)

IT 60-32-2, .epsilon.-Aminocaproic acid  
 RL: RCT (Reactant)  
 (amidation of, by azidobenzenesulfonyl chloride)

IT 3731-51-9, 2-Aminomethylpyridine  
 RL: RCT (Reactant)  
 (amidation of, by azidobenzoic acid)

IT 83578-21-6  
 RL: RCT (Reactant)  
 (amidation of, by azidobenzoylaminocaproic acid)

IT 5515-01-5 15231-41-1  
 RL: RCT (Reactant)  
 (amidation of, by nitrosulfobenzoate)

IT 56-17-7, Cystamine dihydrochloride  
 RL: ANST (Analytical study)  
 (condensation of, with azidobenzenesulfonyl chloride)

IT 15001-44-2, p-Azidobenzenesulfonyl chloride  
 RL: ANST (Analytical study)  
 (condensation of, with cystamine)

IT 82436-78-0  
 RL: RCT (Reactant)  
 (esterification of, by aminocaproic acid deriv.)

IT 6066-82-6, N-Hydroxysuccinimide  
 RL: RCT (Reactant)  
 (esterification of, with carboxypropionylcystamine deriv.)

IT 153311-87-6 153311-94-5  
 RL: RCT (Reactant)  
 (esterification of, with hydroxysuccinimide)

IT 107-15-3, 1,2-Ethanediamine, reactions  
 RL: RCT (Reactant)  
 (esterification of, with nitrosulfobenzoate and succinic anhydride)

IT 153447-97-3, Octenyltrichlorosilane  
 RL: RCT (Reactant)  
 (immunosensor coating with and oxidn. of, for antibody immobilization)

IT 153312-06-2P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)  
 (prepn. and carboxymethylation of)

IT 153311-98-9P 153312-02-8P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)  
 (prepn. and catalytic hydrogenation of)

IT 153312-01-7P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (prepn. and conversion to free acid)

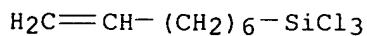
IT 153311-84-3P 153312-03-9P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (prepn. and esterification with hydroxysuccinimide)

IT 153311-99-0P 153312-05-1P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (prepn. and substitution reaction with azide)

IT 153311-86-5P 153311-89-8P 153311-91-2P 153311-92-3P 153311-93-4P  
 153311-95-6P 153312-04-0P 153312-07-3P 153312-08-4P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (prepn. of, for antibody and receptor immobilization,  
 ligand-recognizing site orientation away from solid phase in relation  
 to)

IT 85287-37-2  
 RL: RCT (Reactant)  
 (substitution reaction of, with hydrazine)

AN 1994:77832 HCPLUS  
 DN 120:77832  
 TI Synthesis and characterization of alkylsilane-branched polysiloxanes and their self-assembling monolayers on silicon wafers  
 AU Mao, G.; Sun, F.; Grainger, D. W.  
 CS Dep. Chem. Biol. Sci., Oregon Grad. Inst. Sci. Technol., Beaverton, OR, 97006-1999, USA  
 SO Polym. Prepr. (Am. Chem. Soc., Div. Polym. Chem.) (1993), 34(1), 134-5  
 CODEN: ACPPAY; ISSN: 0032-3934  
 DT Journal  
 LA English  
 CC 35-8 (Chemistry of Synthetic High Polymers)  
 Section cross-reference(s): 37  
 AB Polysiloxanes contg. (trichlorosilyl)octyl and poly(oxyethylene) side chains were prep'd. by direct addn. of (trichlorosilyl)octene and poly(ethylene glycol) allyl Me ether to alkyl hydrogen polysiloxanes. The polymers form bound ultrathin films on oxidized Si wafers. The film-forming behavior is influenced by side chain chem. and content.  
 ST polyoxyethylene trichlorosilyloctyl polysiloxane prep'n property; ultrathin film polyoxyethylene siloxane; silicon wafer ultrathin polysiloxane film  
 IT Contact angle  
     (of (trichlorosilyl)octyl poly(oxyethylene)-polysiloxane ultrathin films, with water)  
 IT Glass temperature and transition  
     (of (trichlorosilyl)octyl poly(oxyethylene)-polysiloxanes)  
 IT Siloxanes and Silicones, compounds  
     RL: SPN (Synthetic preparation); PREP (Preparation)  
         (alkyl hydrogen, reaction products, with poly(oxyethylene) allyl Me ether and (trichlorosilyl)octene, prep'n. and ultrathin film-forming behavior of)  
 IT Siloxanes and Silicones, preparation  
     RL: SPN (Synthetic preparation); PREP (Preparation)  
         (polyoxyalkylene-, (trichlorosilyl)octyl group-contg., graft, prep'n. and ultrathin film-forming behavior of)  
 IT Polyoxyalkylenes, preparation  
     RL: SPN (Synthetic preparation); PREP (Preparation)  
         (siloxane- (trichlorosilyl)octyl group-contg., graft, prep'n. and ultrathin film-forming behavior of)  
 IT 27252-80-8DP, Poly(ethylene glycol) allyl methyl ether, reaction products with alkyl hydrogen polysiloxanes  
     RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)  
         (prepn. and reaction of, with (trichlorosilyl)octene)  
 IT 52217-52-4DP, Silane, trichloro-7-octenyl-, reaction products with graft poly(oxyethylene)-alkyl hydrogen polysiloxanes  
     RL: SPN (Synthetic preparation); PREP (Preparation)  
         (prepn. and ultrathin film-forming behavior of)  
 IT 52217-52-4DP, Silane, trichloro-7-octenyl-, reaction products with graft poly(oxyethylene)-alkyl hydrogen polysiloxanes  
     RL: SPN (Synthetic preparation); PREP (Preparation)  
         (prepn. and ultrathin film-forming behavior of)  
 RN 52217-52-4 HCPLUS  
 CN Silane, trichloro-7-octenyl- (9CI) (CA INDEX NAME)



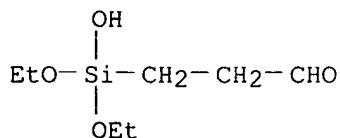
L113 ANSWER 7 OF 9 HCPLUS COPYRIGHT 2002 ACS

AN 1993:254997 HCPLUS

DN 118:254997

TI Formation of aldehyde groups on the surface of titanium-containing silica  
 AU Kol'tsov, S. I.; Brykalov, A. V.

CS St. Petersburg. Tekhnol. Inst., St. Petersburg, Russia  
 SO Zh. Obshch. Khim. (1992), 62(8), 1733-8  
 CODEN: ZOKHA4; ISSN: 0044-460X  
 DT Journal  
 LA Russian  
 CC 29-6 (Organometallic and Organometalloidal Compounds)  
 AB The effect of mol. stratification of silica-gel surface titanoxyl layers on the reaction of (.gamma.-aminopropyl)triethoxysilane with surface hydroxyl groups was examd.; the reaction is accompanied by an increase in the total amt. of bound groups. During further modification by deazotization and subsequent **oxidn.** of these hydroxyl groups, a process of quant. conversion of terminal amino groups into stable aldehyde groups takes place. Aldehyde-contg. groups thus formed on silica gel increase the enzymic activity of immobilized pepsin significantly.  
 ST silica gel titanoxyl aldehyde formation  
 IT Aldehydes, preparation  
 RL: FORM (Formation, nonpreparative)  
 (formation of, on surface of titanium-contg. silica)  
 IT Silica gel, reactions  
 RL: RCT (Reactant)  
 (reaction of titanium-contg., with (aminopropyl)triethoxysilane and subsequent conversion of, to aldehyde groups)  
 IT 7440-32-6, Titanium, uses  
 RL: USES (Uses)  
 (formation of aldehyde groups on surface of silica gel contg.)  
 IT 125702-51-4DP, silica-bound  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (prepn. and deazotization of)  
 IT 147766-59-4DP, silica-bound  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)  
 (prepn. and **oxidn.** of, aldehyde by)  
 IT 147766-60-7DP, silica-bound  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (prepn. of)  
 IT 919-30-2  
 RL: RCT (Reactant)  
 (reaction of, with hydroxy groups on surface of titanium-contg. silica gel)  
 IT 147766-60-7DP, silica-bound  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (prepn. of)  
 RN 147766-60-7 HCAPLUS  
 CN Propanal, 3-(diethoxyhydroxysilyl)- (9CI) (CA INDEX NAME)



L113 ANSWER 8 OF 9 HCAPLUS COPYRIGHT 2002 ACS  
 AN 1984:34694 HCAPLUS  
 DN 100:34694  
 TI Aldehyde containing hydrolyzable silanes  
 IN Petty, Herbert Euell  
 PA Union Carbide Corp. , USA  
 SO Eur. Pat. Appl., 43 pp.  
 CODEN: EPXXDW  
 DT Patent  
 LA English

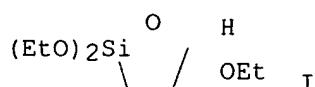
IC C07F007-18

CC 29-6 (Organometallic and Organometalloidal Compounds)  
Section cross-reference(s): 35

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 89690	A1	19830928	EP 1983-102886	19830323
	R: AT, BE, CH, DE, FR, GB, IT, LI, LU, NL, SE				
	US 4424392	A	19840103	US 1982-361189	19820324
	CA 1215716	A1	19861223	CA 1983-423394	19830311
	BR 8301357	A	19831129	BR 1983-1357	19830318
	AU 8312635	A1	19830929	AU 1983-12635	19830321
	AU 556855	B2	19861120		
	JP 58172394	A2	19831011	JP 1983-47346	19830323
	EP 183280	A2	19860604	EP 1985-116531	19830323
	EP 183280	A3	19880608		
	R: AT, BE, CH, DE, FR, GB, IT, LI, LU, NL, SE				
	IN 158046	A	19860823	IN 1983-CA348	19830323
PRAI	US 1982-361189		19820324		
	EP 1983-102886		19830323		

GI



AB The title compds. R<sub>3</sub>-aSiR<sub>1</sub>aQCHO (R = C<sub>1-4</sub> alkoxy; R<sub>1</sub> = C<sub>1-4</sub> alkyl; Q = divalent org. bridging group; a = 0-2) were prep'd. by Rh-catalyzed hydroformylation of R<sub>3</sub>-aSiR<sub>1</sub>aY (Y = ethylenically unsatd. org. radical). Thus, a mixt. of (EtO)<sub>3</sub>SiCH:CH<sub>2</sub>, P(OPh)<sub>3</sub>, and an activated Rh catalyst was subjected to 1:1 H<sub>2</sub>-CO at 80-90.degree. to give 81 wt.% (EtO)<sub>3</sub>SiCH<sub>2</sub>CH<sub>2</sub>CHO, 3 wt.% (EtO)<sub>3</sub>SiCH(CHO)Me, and 16 wt.% I. This mixt. of products was used to bond a phenolic resin to microscope slides. Also hydroformylated were (MeO)<sub>3</sub>SiCH:CH<sub>2</sub>, (EtO)<sub>2</sub>Si(Me)CH:CH<sub>2</sub>, (EtO)<sub>3</sub>SiCH<sub>2</sub>CH:CH<sub>2</sub>, and (MeO)<sub>3</sub>Si(CH<sub>2</sub>)<sub>3</sub>O<sub>2</sub>CCMe:CH<sub>2</sub>.

ST aldehyde hydrolyzable silane; vinylsilane trialkoxy hydroformylation; alkoxyisilyl aldehyde; alkanal trialkoxysilyl

IT Aldehydes, preparation

IT RL: PREP (Preparation)  
(alkoxysilyl-substituted)

IT Hydroformylation  
(of alkenylalkoxysilanes)

IT Hydroformylation catalysts  
(rhodium with tri-Ph phosphite, for alkenylalkoxysilanes)

IT 88386-09-8

IT RL: PROC (Process)  
(binding of, to glass by formyl-substituted silanes)

IT 7440-16-6, uses and miscellaneous

IT RL: CAT (Catalyst use); USES (Uses)  
(catalysts, with tri-Ph phosphite, for hydroformylation of alkenylalkoxysilanes)

IT 78-08-0 2530-85-0 2550-04-1 2768-02-7 5507-44-8

IT RL: RCT (Reactant)  
(hydroformylation of)

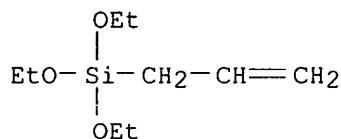
IT 101-02-0

IT RL: RCT (Reactant)  
(hydroformylation of alkenylalkoxysilanes in presence of rhodium catalyst and)

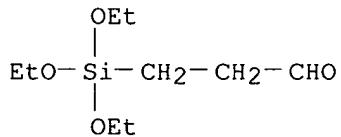
IT 88276-83-9P 88276-84-0P 88276-85-1P

IT RL: SPN (Synthetic preparation); PREP (Preparation)

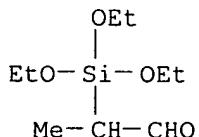
(prepn. and binding of phenolic resins to glass by)  
 IT 15184-27-7P 88276-86-2P 88276-87-3P 88276-88-4P  
     88276-89-5P 88276-90-8P 88276-91-9P  
     88276-92-0P 88276-93-1P 88276-94-2P 88276-95-3P  
     88276-96-4P 88276-97-5P 88289-29-6P  
     RL: SPN (Synthetic preparation); PREP (Preparation)  
         (prepn. of)  
 IT 122-51-0  
     RL: RCT (Reactant)  
         (reaction of, with (triethoxysilyl)alkanals)  
 IT 998-30-1  
     RL: RCT (Reactant)  
         (reaction of, with acrolein di-Me acetal)  
 IT 6044-68-4  
     RL: RCT (Reactant)  
         (reaction of, with triethoxysilane)  
 IT 2550-04-1  
     RL: RCT (Reactant)  
         (hydroformylation of)  
 RN 2550-04-1 HCPLUS  
 CN Silane, triethoxy-2-propenyl- (9CI) (CA INDEX NAME)



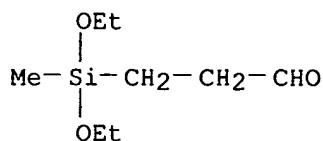
IT 88276-83-9P 88276-84-0P  
     RL: SPN (Synthetic preparation); PREP (Preparation)  
         (prepn. and binding of phenolic resins to glass by)  
 RN 88276-83-9 HCPLUS  
 CN Propanal, 3-(triethoxysilyl)- (9CI) (CA INDEX NAME)



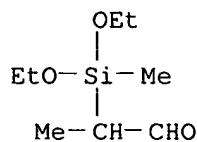
RN 88276-84-0 HCPLUS  
 CN Propanal, 2-(triethoxysilyl)- (9CI) (CA INDEX NAME)



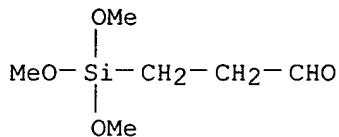
IT 88276-87-3P 88276-88-4P 88276-90-8P  
     88276-91-9P 88276-92-0P 88276-93-1P  
     RL: SPN (Synthetic preparation); PREP (Preparation)  
         (prepn. of)  
 RN 88276-87-3 HCPLUS  
 CN Propanal, 3-(diethoxymethylsilyl)- (9CI) (CA INDEX NAME)



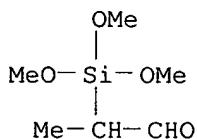
RN 88276-88-4 HCAPLUS  
 CN Propanal, 2-(diethoxymethylsilyl)- (9CI) (CA INDEX NAME)



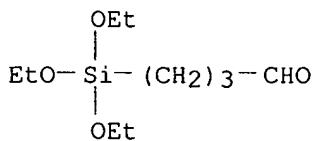
RN 88276-90-8 HCAPLUS  
 CN Propanal, 3-(trimethoxysilyl)- (9CI) (CA INDEX NAME)



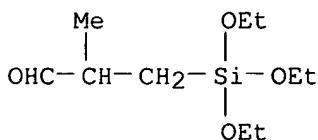
RN 88276-91-9 HCAPLUS  
 CN Propanal, 2-(trimethoxysilyl)- (9CI) (CA INDEX NAME)



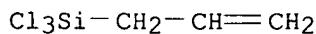
RN 88276-92-0 HCAPLUS  
 CN Butanal, 4-(triethoxysilyl)- (9CI) (CA INDEX NAME)



RN 88276-93-1 HCAPLUS  
 CN Propanal, 2-methyl-3-(triethoxysilyl)- (9CI) (CA INDEX NAME)



L113 ANSWER 9 OF 9 HCAPLUS COPYRIGHT 2002 ACS  
 AN 1968:90182 HCAPLUS  
 DN 68:90182  
 TI Hydrophilation of glass surfaces. I. Possible promoters of filmwise condensation  
 AU Blackman, Lionel C. F.; Harrop, R.  
 CS Chem. Res. Div., Brit. Railways Res. Dep., London, Engl.  
 SO J. Appl. Chem. (1968), 18(2), 37-43  
 CODEN: JACHAU  
 DT Journal  
 LA English  
 CC 66 (Surface Chemistry and Colloids)  
 AB The bonding tenacity of various silanes and quaternary ammonium compds. to glass after steaming was detd. from ir and contact angle measurements to be in the order: polysiloxane > Cl<sub>3</sub>SiH > quaternary ammonium compds. > Cl<sub>2</sub>SiH<sub>2</sub> > ClSiH<sub>3</sub> > EtOSiH<sub>3</sub>. All compds. were inefficient promoters of filmwise condensation on the glass surface. Oxidn. of H<sub>2</sub>C:CHCH<sub>2</sub>SiCl<sub>3</sub> with KMnO<sub>4</sub> which was previously bonded to the glass surface yielded the most strongly bonded hydrophilic coating. Oriented monolayer formation is more complex for glass than for metal substrates.  
 ST GLASS HYDROPHILATION; HYDROPHILATION GLASS  
 IT Glass  
 RL: PRP (Properties)  
 (condensation on, of water, effect of treatment with ammonium compds. and silane derivs. on)  
 IT Siloxanes, properties  
 RL: PRP (Properties)  
 (methyl, condensation of water on glass treated with)  
 IT Condensation, physical  
 (of water, on glass treated with ammonium compds. and silane derivs.)  
 IT 57-09-0 75-78-5 75-79-6 78-10-4 78-62-6 112-04-9 1119-94-4  
 2031-67-6 13465-78-6  
 RL: PRP (Properties)  
 (condensation of water on glass treated with)  
 IT 107-37-9  
 RL: PRP (Properties)  
 (condensation of water on glass treated with oxidized)  
 IT 107-37-9  
 RL: PRP (Properties)  
 (condensation of water on glass treated with oxidized)  
 RN 107-37-9 HCAPLUS  
 CN Silane, trichloro-2-propenyl- (9CI) (CA INDEX NAME)



=> d his

(FILE 'HOME' ENTERED AT 12:44:28 ON 30 APR 2002)  
 SET COST OFF

FILE 'HCAPLUS' ENTERED AT 12:44:40 ON 30 APR 2002  
 E HEVESI L/AU  
 L1 92 S E3,E4  
 E JEANMART L/AU  
 L2 3 S E3,E4  
 E REMACLE J/AU  
 L3 218 S E3-E7,E13  
 L4 140 S ALLYLTRICHLOROSILANE OR ALLYL() (TRICHLOROSILANE OR TRICHLORO

L5 3 S 5 () (HEXENYLTRICHLOROSILANE OR HEXENYL() (TRICHLOROSILANE OR T  
 L6 5 S HEXENYLTRICHLOROSILANE OR HEXENYL() (TRICHLOROSILANE OR TRICHL  
 L7 5 S 7() (OCTENYLTRICHLOROSILANE OR OCTENYL() (TRICHLOROSILANE OR TR  
 L8 16 S OCTENYLTRICHLOROSILANE OR OCTENYL() (TRICHLOROSILANE OR TRICHL  
 L9 1 S L1-L3 AND L4-L8

FILE 'REGISTRY' ENTERED AT 12:51:59 ON 30 APR 2002  
 L10 3 S 107-37-9 OR 18817-29-3 OR 52217-52-4  
 L11 25 S (107-37-9 OR 18817-29-3 OR 52217-52-4) /CRN  
 L12 1 S L11 AND 1/NC  
 L13 24 S L11 NOT L12

FILE 'HCAPLUS' ENTERED AT 12:55:25 ON 30 APR 2002  
 L14 229 S L10 OR L11  
 L15 3 S TRICHLORO()7() ((OCT 1 ENYLSILANE) OR OCTENYLSILANE)  
 L16 4 S TRICHLORO 5 HEXENYLSILANE  
 L17 0 S PROPEN 3 YLTRICHLOROSILANE  
 L18 0 S PROPEN 3 YL TRICHLOROSILANE  
 L19 0 S PROPEN 3 YL TRICHLORO SILANE  
 L20 0 S TRICHLORO 2() (PROPENYLSILANE OR PROPENYL SILANE)  
 L21 259 S L4-L8, L14, L15, L16  
 L22 1 S L1-L3 AND L21  
 L23 1 S L9, L22  
 E OXIDATION/CW  
 L24 198841 S E3  
 E OXIDATION/CT  
 E E3+ALL  
 L25 177492 S E4, E3+NT  
 L26 99443 S E41+NT OR E42+NT OR E43+NT OR E44+NT OR E45+NT OR E46+NT  
 L27 6 S L21 AND L24-L26  
 L28 5 S E48+NT AND L21  
 L29 11 S L27, L28  
 L30 13 S (OXIDAT? OR OXIDIZ? OR OXIDIS?) AND L21  
 L31 20 S L29, L30  
 L32 4 S L31 AND ?ALDEHYD?  
 L33 2 S L31 AND ?PERMANGANAT?  
 L34 1 S L31 AND ?PERIODAT?

FILE 'REGISTRY' ENTERED AT 13:02:07 ON 30 APR 2002  
 L35 1 S 7722-64-7  
 L36 1 S 7790-28-5  
 L37 1 S 13465-41-3  
 L38 90 S 13465-41-3 /CRN  
 L39 1 S 13444-71-8  
 L40 101 S 13444-71-8 /CRN

FILE 'HCAPLUS' ENTERED AT 13:02:43 ON 30 APR 2002  
 L41 2 S L35-L40 AND L21  
 E PERMANGANATE/CT  
 E E6+ALL  
 L42 8539 S E11+NT  
 E PERIODATE/CT  
 E E5+ALL  
 L43 97 S E1  
 L44 30 S E2, E3  
 E E2+ALL  
 E E4+ALL  
 E E3+ALL  
 L45 96 S E2  
 L46 2 S L42-L45 AND L21  
 L47 4 S L32-L34, L41, L46  
 L48 3 S L47 NOT L23  
 L49 16 S L31-L34, L41, L46 NOT L47

SEL DN AN 1 10 11 14  
 L50 4 S E1-E10  
 L51 2 S L21 AND KMNO4  
 L52 2 S L21 AND NAIO4  
 L53 5 S L23, L50-L52  
 L54 31 S L21 AND ?ALDEHYDE?  
     E ALDEHYDE/CT  
     E E15+ALL  
 L55 27 S L21 AND E3+NT  
 L56 1 S L21 AND E177+NT  
 L57 27 S L55, L56  
 L58 9 S L54 NOT L57  
     SEL DN AN 5  
 L59 1 S L58 AND E1-E3  
 L60 2 S L59, L23  
 L61 6 S L53, L60  
 L62 6 S L61 AND L1-L9, L14-L34, L41-L61

FILE 'REGISTRY' ENTERED AT 13:19:08 ON 30 APR 2002

L63 STR  
 L64 0 S L63  
 L65 STR L63  
 L66 0 S L65

FILE 'HCAPLUS' ENTERED AT 13:20:51 ON 30 APR 2002

SEL RN L23

FILE 'REGISTRY' ENTERED AT 13:20:54 ON 30 APR 2002

L67 10 S E4-E13  
 L68 STR L65  
 L69 50 S L68  
 L70 STR L68  
 L71 50 S L70  
 L72 STR L70  
 L73 0 S L72  
 L74 STR L70  
 L75 50 S L74  
 L76 594574 S SI/ELS AND (O OR CL OR BR OR F OR I)/ELS  
 L77 50 S L70 SAM SUB=L76  
 L78 50 S L68 OR L74  
 L79 50 S L68 OR L74 SAM SUB=L76  
 L80 378147 S L68 FUL  
 L81 30254 S L74 FUL  
 L82 403549 S L80, L81  
     0 S L72 SAM SUB=L82  
 L84 55 S L72 FUL SUB=L82  
 L85 STR  
 L86 2 S L85 CSS SAM SUB=L82  
 L87 293 S L85 CSS FUL SUB=L82  
     SAV L84 TEMP TRAN833/A  
     SAV L87 TEMP TRAN833A/A

FILE 'HCAPLUS' ENTERED AT 13:32:38 ON 30 APR 2002

L88 29 S L84  
 L89 796 S L87  
 L90 0 S L21 AND L88  
 L91 1 S L88 AND L89  
 L92 0 S L88 AND (L35-L40, L42-L45 OR KMNO4 OR NAIO4 OR PERMAGANAT? OR  
 L93 24 S L84/P  
 L94 1 S L91 AND L93  
 L95 0 S L88 AND L24-L26  
 L96 2 S L88 AND OXID?  
     SEL DN AN 2

L97 1 S L96 AND E14-E16  
L98 8 S L62, L91, L94, L97  
L99 27 S L88 NOT L98  
SEL DN AN 1  
L100 1 S E17-E19  
L101 9 S L98, L100 AND L1-L9, L14-L34, L41-L62, L88-L100  
E DNA MICROARRAY TECHNOLOGY/CT  
E E3+ALL  
L102 3269 S E4+NT  
L103 3811 S E6-E14/BI  
E COMBINATORIAL/CT  
E E5+ALL  
L104 1628 S E3+NT  
L105 3057 S E3/BI  
E E4+ALL  
L106 5896 S E1+NT  
L107 2259 S E6+NT  
L108 4282 S E5+NT  
E HIGH THROUGHPUT/CT  
E E5+ALL  
L109 340 S E1  
L110 2207 S E1/BI  
L111 0 S L88, L90 AND L102-L110  
L112 1 S L21 AND L102-L110  
L113 9 S L101, L112  
SEL HIT RN

FILE 'REGISTRY' ENTERED AT 13:51:30 ON 30 APR 2002

L114 15 S E1-E15  
L115 3 S L114 AND L10  
L116 2 S L114 AND L35-L40  
L117 10 S L114 AND L82 NOT L115

FILE 'REGISTRY' ENTERED AT 13:53:40 ON 30 APR 2002

FILE 'HCAPLUS' ENTERED AT 13:54:53 ON 30 APR 2002  
L118 0 S L1-L3 AND L88, L89 NOT L113  
L119 6 S L1-L3 AND L102-L110 NOT L113